

IN THE CLAIMS

1. (Currently amended) A method for recovering peptides/amino acids and oil/fat from one or more protein-containing raw materials ~~characterised in that it~~ wherein the method comprises the following steps:
 - a. grinding the raw materials;
 - b. heating the ground raw materials to a temperature in the range of 40-62°C, preferably 45-58°C;
 - c. optionally before and/or after the heating step, separating oil/fat from the raw materials in order to obtain a first oil product;
 - d. adding water, the water having approximately the same or the same temperature as the raw materials, and wherein the pH of the water is adjusted by adding calcium;
 - e. hydrolysing the raw materials with endogenous enzymes in order to prepare a hydrolysate;
 - f. optionally during the hydrolysisation step, adding a pH adjuster in order to maintain the desired pH value of the hydrolysate;
 - g. heating the hydrolysate to 75-100°C, preferably 85-95°C;
 - h. removing large particles from the hydrolysate, including non-hydrolysed proteins, which can be returned to the hydrolysis;
 - i. optionally separating off fat/oil in order to obtain a second oil product;
 - j. coagulating the proteins;
 - k. removing the coagulated proteins;
 - l. optionally separating off fat/oil in order to obtain a third oil product;
 - m. optionally concentrating the remaining amino acids and short peptides;
 - and
 - n. optionally drying the concentrate in order to obtain dry short peptides and amino acids.

2. (Currently amended) A The method according to claim 1, characterised in that wherein the water added in step d comprises 10-40%, preferably 20-30% water of a total reaction mixture.
3. (Currently amended) A The method according to claim 1, characterised in that it wherein the method takes place as a closed process.
4. (Currently amended) A The method according to claim 1, characterised in that wherein the pH adjuster in step f is nitrogen gas, calcium or bone meal.
5. (Currently amended) A The method according to claim 1, characterised in that it wherein the method further comprises dividing the large particles from step h into bone portions for producing hydroxy apatite, protein residues that can be returned to the hydrolysis, and other solid particles.
6. (Currently amended) A The method according to claim 1, characterised in that wherein the peptide and amino acid product has a fat content of < 0.1% and a salt content of < 1%.
7. (Currently amended) The use of one of the methods the method according to claim 1 for producing a pharmaceutical product.
8. (Currently amended) The use of one of the methods the method according to claim 1 for producing a food product.
9. (Currently amended) The use of one of the methods the method according to claim 1 for producing a feed product.

10. (Currently amended) The use of ~~one of the methods~~ the method according to claim 1 for producing a biotechnological product.

11. (Currently amended) The use of ~~one of the methods~~ the method according to claim 1 for producing hydroxy apatite.

12. (Currently amended) Amino acids/peptides prepared by the method of claim 1, ~~characterised in that they~~ wherein the amino acids/peptides do not contain allergens and DNA traces, and that the fat content is < 0.1% and ~~they~~ the amino acids/peptides have a salt content of < 0.5% by weight.

13. (Currently amended) Hydroxy apatite produced by the method of claim 5, ~~characterised in that it~~ wherein the hydroxy apatite does not contain allergens and DNA traces.

14. (Currently amended) ~~The Oil, characterised in that it is the~~ first oil product produced by the method of claim 1, ~~wherein the oil~~ is cold-pressed and is of foodstuff quality.

15. (Currently amended) A method for recovering peptides/amino acids from one or more protein-containing raw products, ~~characterised in that it~~ wherein the method comprises the following steps:

- a. grinding the raw materials;
- b. heating the ground raw materials to temperatures in the range of 40 to 62°C, preferably 45 to 58°C;
- c. optionally before and/or after the heating step, separating oil/fat from the raw materials in order to obtain a first oil product;
- d. adding water, the water having approximately the same or the same

temperature as the raw materials, and wherein the pH of the water is adjusted by adding calcium;

e. hydrolysing the raw materials with endogenous enzymes in order to prepare a hydrolysate;

f. optionally during the hydrolysis step, adding a pH adjuster in order to maintain the desired pH value of the hydrolysate;

g. heating the hydrolysate to 75-100°C, preferably 85-95°C;

h. removing large particles from the hydrolysate including non-hydrolysed proteins;

i. optionally separating off fat/oil in order to obtain a second oil product;

j. removing the proteins and long peptides;

k. concentrating the remaining amino acids and peptides;

l. returning proteins and long peptides to the concentrate in order to obtain a protein product; and

m. optionally drying the protein product in order to obtain a dried product containing proteins, free amino acids and short and long peptides.

16. (Currently amended) A The method according to claim 15, ~~characterised in that~~ ~~wherein~~ the water added in step d comprises 10-40%, preferably 20-30% water of a total reaction mixture.

17. (Currently amended) A The method according to claim 15, ~~characterised in that it~~ ~~wherein the method takes place as a closed process.~~

18. (Currently amended) A The method according to claim 15, ~~characterised in that~~ ~~wherein~~ the pH adjuster in step f is nitrogen gas, calcium or bone meal.

19. (Currently amended) A The method according to claim 15, ~~characterised in that it~~

wherein the method further comprises dividing the large particles from step h into bone portions for producing hydroxy apatite, protein residues and other solid particles.

20. (Currently amended) A The method according to ~~one of claims 15-19, characterised in that claim 15, wherein~~ the protein product comprises 5-95% by weight of free amino acids, preferably 30-60% by weight.

21. (Currently amended) A The method according to ~~one of claims 15-20, characterised in that claim 15, wherein~~ the protein product contains less than 0.5% by weight of fat.

22. (Currently amended) A The method according to ~~one of claims 15-21, characterised in that claim 15, wherein~~ the protein product contains less than 1% by weight of salt.

23. (Currently amended) The use of ~~one of the methods~~ the method according to claim 15 for producing a veterinary medical product.

24. (Currently amended) The use of ~~one of the methods~~ the method according to claim 15 for producing a food product.

25. (Currently amended) The use of ~~one of the methods~~ the method according to claim 15 for producing a feed product.

26. (Currently amended) Oil, ~~characterised in that it is the~~ The first oil product produced by the method of claim 15, wherein the oil is cold-pressed and is of foodstuff quality.

27. (Currently amended) A method for recovering peptides/amino acids and oil/fat from a protein-containing raw material, ~~characterised in that it~~ wherein the method comprises

the following steps:

- a. grinding the raw materials;
- b. heating the ground raw materials to temperatures in the range of 40-62°C, preferably 45-58°C;
- c. optionally before and/or after the heating step, separating oil/fat from the raw materials in order to obtain a first oil product;
- d. adding water which has approximately the same or the same temperature as the raw materials, and wherein the pH of the water is adjusted by adding calcium;
- e. hydrolysing the raw materials with endogenous enzymes in order to prepare a hydrolysate;
- f. optionally during the hydrolysis step, adding a pH adjuster in order to maintain the desired pH value of the hydrolysate;
- g. removing solid particles and non-hydrolysed proteins which can be returned to the hydrolysis from the hydrolysate;
- h. periodically or continually separating off fat/oil in order to obtain a second oil product;
- i. optionally treating the hydrolysate against microorganism growth, preferably with UV treatment;
- j. separating off the molecular weight fraction of peptides/amino acids desired by membrane filtration, preferably of crossflow type;
- k. routing the portions of the hydrolysate that do not penetrate the membrane filter in point j back to the hydrolysis in step e;
- l. concentrating and optionally drying the permeate in order to obtain peptides/amino acids; and
- m. wholly or partly returning the distillate from the concentration to the permeate side of the membrane filter.

28. (Currently amended) A The method according to claim 27, ~~characterised in that it~~

wherein the method takes place as a closed process.

29. (Currently amended) A The method according to claim 27, ~~characterised in that~~ wherein the pH adjuster in step f is nitrogen gas or bone meal.

30. (Currently amended) A The method according to claim 27, ~~characterised in that it~~ wherein the method further comprises dividing the solid particles from step g into hydroxyapatite, protein residues and other solid particles.

31. (Currently amended) A The method according to claim 27, ~~characterised in that~~ wherein the second oil product recovered in step h is passed through a filter, and any heavy portions (e.g., stearic acid) are removed in order to obtain a cold-pressed, protein-free sterile oil.

32. (Original) A method for the hydrolysation of one or more protein-containing raw materials and the separation of amino acids/peptide, characterised in that the hydrolysation is carried out using the endogenous enzymes of the protein-containing material or materials; and

that the hydrolysate is passed through a membrane-like filter, wherein peptides/amino acids follow a permeate stream, whilst the active enzymes continuously break down any protein residues that are deposited on the membrane surface and the enzymes are passed together with the retenate back to the hydrolysis.

33. (Original) A method for removing peptides and amino acids from a hydrolysis mixture, characterised in that the hydrolysis mixture comprising active enzymes, amino acids, peptides and non-converted proteins is passed through a membrane filter, wherein amino acids and any peptides are filtered off and the active enzymes present act to break down proteins that are deposited on the membrane filter.

34. (Currently amended) The use of ~~one of the methods~~ the method according to claim 27, ~~32 or 33~~ for producing a pharmaceutical product.

35. (Currently amended) The use of ~~one of the methods~~ the method according to claim 27, ~~32 or 33~~ for producing a biotechnological product.

36. (Currently amended) The use of ~~one of the methods~~ the method according to claim 27, ~~32 or 33~~ for producing a food product.

37. (Currently amended) The use of ~~one of the methods~~ the method according to claim 27, ~~32 or 33~~ for producing a feed product.

38. (Original) The use of the method according to claim 30 for producing hydroxyapatite.

39. (Currently amended) Amino acids/peptides produced by the method according to claim 27, ~~characterised in that they~~ wherein the amino acids/peptides do not contain allergens and DNA traces, are virtually fat-free and have a salt content of < 0.5% by weight.

40. (Currently amended) Oil The oil produced by the method according to claim 31, ~~characterised in that it~~ wherein the oil does not contain allergens or DNA traces.

41. (Currently amended) The hydroxy Hydroxy apatite produced by the method according to claim 30, ~~characterised in that it~~ wherein the hydroxy apatite does not contain allergens or DNA traces.